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Seeing the forest, missing the field: Forests and agriculture in global climate change policy

Cinthia Soto Golcher[a,*], Bas Arts[a], Ingrid Visseren-Hamakers[b]

[a] Forest and Nature Conservation Policy Group, Wageningen University and Research, P.O. box 47, 6700 AA Wageningen, The Netherlands
[b] Department of Environmental Science & Policy, George Mason University, David King Hall, Room 3019, 4400 University Drive, MSN 5F2, Fairfax, VA 22030, United States

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ABSTRACT

As the climate change problem becomes more eminent, there is more pressure to increase efforts in all sectors and countries. The land-use sector is seen as an option to reduce greenhouse gas (GHG) emissions, and key in achieving a balance in GHG emissions and removals by sinks by 2050, as envisioned in the Paris Agreement. This article presents two comparative case studies within the climate change arena and aims to understand how and why: 1) tropical deforestation and forest degradation have secured a prominent place on the international climate change agenda, while 2) agriculture has not secured a prominent place. We use the agenda-setting multistream approach (MSA), while adding a framing layer. Based on primary data (including an international workshop with forest and agriculture experts, interviews, and participation in key international meetings), and secondary data, this article concludes that REDD + is an example of how a condition was framed as a problem, a viable proposal was developed, and political will and receptivity was shown, all of which placed REDD + high on the agenda, and generated its legal and methodological framework over the course of ten years. In these efforts, the role of policy entrepreneurs was key. Agriculture, on the other hand, is a more complex sector with multiple interests and millions of stakeholders. The consideration of agriculture, in particular its mitigation component, is therefore a highly contentious issue. The fear of new binding commitments and the potential threat to food security and production, and the lack of a convincing proposal that addresses the multiple values of agriculture has impeded substantive progress. Also, the absence of a committed policy entrepreneur limits the place of agriculture in the climate change agenda under the United Nations Framework Convention on Climate Change.

1. Introduction

Within global environmental governance, the consideration of the conservation and sustainable use of forests has proven to be a difficult and contentious task. Deforestation continues to be a challenge in many countries. The inclusion of tropical deforestation as part of the climate agenda was neglected for several years until 2005, when it became an agenda item under the United Nations Framework Convention on Climate Change (UNFCCC), to be further considered as part of the Subsidiary Body for Scientific and Technological Advice (SBSTA) programme of work: "Reducing emissions from deforestation in developing countries: approaches to stimulate action" (UNFCCC, 2005). Ten years later, forest was the only sector explicitly mentioned in the Paris Agreement through its specific attention to REDD+ (Reducing Emissions from Deforestation and forest Degradation in developing countries). By being in the UNFCCC decision agenda, REDD + started as a mitigation mechanism that evolved throughout the years into something more complex and encompassing (for instance, to include safeguards). REDD + has triggered a number of actions, initiatives and funds at the national and international levels. The inclusion of REDD + in policies, plans and programmes has happened relatively fast (Den Besten et al., 2014).

Several researchers have indicated that REDD + success is highly dependent on how actors manage to address the main drivers of deforestation and forest degradation and work together with other sectors influencing land-use decisions, including agriculture (Corbera et al., 2010; Kissinger, 2013; Salvini et al., 2014). Despite the strong linkages between forests and agriculture, including the fact that agriculture is one of the main drivers of deforestation (Geist and Lambin, 2002; Hosonuma et al., 2012; Kissinger et al., 2012), the sectors have a history of following separate policy tracks. To add to the complexity, agriculture's emissions are expected to increase significantly over the

* Corresponding author.
E-mail addresses: cinthia.soto@wur.nl (C. Soto Golcher), bas.arts@wur.nl (B. Arts), ivissere@gmu.edu (I. Visseren-Hamakers).

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coming decades (Climate Focus et al., 2011; Wilkes et al., 2013). Efforts to include agriculture in the climate domain in an integral manner - including both mitigation and adaptation - are more recent than those related to forest. Integration has happened more extensively for adaptation than mitigation (Soto and Visseren-Hamakers, 2018 (in press)). In general, "agriculture has not had a very prominent role in any of the agreements emerging from the climate negotiations. While some progress has been made recently, this has been painfully slow." (Kalfagianni and Duyck, 2015: 2). While the Nationally Appropriate Mitigation Actions (NAMAs) and the Nationally Determined Contributions (NDCs) have opened a window for addressing agricultural mitigation (and/or adaptation), consistency among countries is still lacking. Being part of the decision agenda will allow for a discussion to take place in an structured and potentially action-oriented way, to develop common understandings regarding how to address certain complexities particular to the sector, identify synergies with forest/REDD+, and develop appropriate mechanisms and incentives. As indicated by one of our interviewees: "…when looking at the number of initiatives caused by the REDD + discussions such as UN-REDD, FCPF, FIP, as well as many regional and national initiatives it looks like agriculture is missing this kind of by-product".[1]

This research aims to understand how forests, and in particular tropical deforestation and forest degradation, managed to play an increasingly prominent role on the global climate change agenda, including its consideration in the Paris Agreement (UNFCCC, 1992: article 5), while agriculture is still lagging behind. The paper also attempts to marry the agenda-setting multiple streams model with framing theory in order to enrich our understanding of agenda setting in international arenas. It addresses the following questions:

1) How and why have tropical deforestation and forest degradation received a prominent place on the international climate change agenda since 2005?
2) How and why has agriculture not received a prominent place on the international climate change agenda?

This article will start by presenting its conceptual framework and methods. This will be followed by an analysis of key dimensions that may be conducive for the consideration of tropical deforestation and agriculture in the international climate change agenda. It wraps up with a discussion and conclusion.

2. Conceptual Framework: Agenda setting and framing

"Fundamental to all studies of agenda setting is a focus on the dynamics by which new ideas, new policy proposals and new understandings of problems meet resistance from the prevailing political arrangements but sometimes break through to create dramatic policy changes" (Baumgartner et al., 2006: 959). Over time, various frameworks have emerged to explain such breakthroughs. Explanations have varied from: (1) the urgency of societal problems in need of collective problem solving (Dunn, 2016); to (2) powerful elites that control agenda setting in accordance with their interests (Bachrach and Baratz, 1962); (3) public opinion or mass media that pressure policy makers to act (Downs, 1972); (4) policy entrepreneurs who frame problems and solutions in 'attractive' ways and seek opportunities in politics to 'sell' these to policy makers (Kingdon, 2014); and (5) disruptive periods in which 'external forces', such as disasters or economic crises, force policy makers to change their views and policies (Jones and Baumgarter, 2012). This paper particularly builds upon the fourth framework (Kingdon), because, firstly, it focuses on a *specific* and *single* policy field (climate change), thus excluding more systemic and structural theories of agenda setting (like the second and the fifth ones). Secondly, it particularly analyses the *internal* dynamics of this policy field, excluding the third and fifth approach, although external factors to agenda-setting will definitely be referred to in our analysis below. Finally, the paper shares with Kingdon (and others) the critical perspective on 'rational choice' approaches in policy analysis, thus excluding the first approach.

Kingdon is the founding father of the so-called 'multiple streams approach' (MSA). It can be viewed as a critical approach towards 'rational policy analysis' (policy cycle framework, stages approach, comprehensive rationality (see Dunn, 2016; Sabatier, 2007). The various stages in a policy process (problem identification, policy design, decision-making, solutions, etc.) do not neatly follow one another; instead, Kingdon considers these as rather autonomous 'streams' of problems (or issues), policies (solutions), and politics (decision-making) that can cause policy change when they meet. For this to happen, windows of opportunity should be opened, for example through elections, referenda or politically relevant events or crises, because political and bureaucratic systems have a 'natural' tendency to resist change. However, the creation of windows of opportunity and the merging of streams do not happen automatically, but should be facilitated by 'policy entrepreneurs' who – for example through targeted issue framing or resource mobilization – bring about policy change. Examples might be high-positioned civil servants, (new) political leaders, lobbyists, charismatic personalities, or Nobel Prize laureates. With this image of the policy process, Kingdon also departs from the possibility to *design* policies rationally. Policymaking is not rational at all; rather, it is ambiguous, selective, biased and imperfect (Cairney and Jones, 2016).

Although MSA and framing theory have a lot in common, including a critical perspective on rational policy analysis and design, Kingdon does not refer to framing theory in his work. Yet some MSA followers do, because framing processes play crucial roles in how problems, policies and politics are defined and coupled (Sarmiento-Mirwaldt, 2015). We too would like to make the framing aspect in MSA more explicit by linking Kingdon to framing theory (Benford and Snow, 2000; Dewulf, 2013; Schön and Rein, 1994). We do so by adding another layer to the MSA framework. While we follow the analytical dimensions per stream, we also explicitly ask ourselves what framing processes have been implied in our case studies to put more emphasis on discursive dynamics and entrepreneurship. Such framing processes are crucial for successful agenda setting, in our view.

As mentioned, the emergence or disappearance of issues on the agenda is, according to Kingdon (2014), the result of three independent streams that interact with one another. The analysis in this article will follow these streams, and whether or not they meet, in the case of tropical deforestation and agriculture, as part of international climate change policy. Based on MSA and framing theory, the following analytical dimensions are used:

1 *Problems stream:* According to Kingdon (2014), indicators, focusing events, and feedback are the means through which policymakers become aware of problems:
   - Indicators: can be generated for routine monitoring or special studies. They can assess the magnitude of a situation and recognize if there is a variation in the problem situation.
   - Feedback: can come in different forms, for instance established routine evaluations, or programmes' "systematic monitoring" (Kingdon (2014: 101), e.g. performance assessment of a programme, or through more informal means like complaints from the public. In the empirical section ahead, both indicators and feedback will be analysed together, as indicators can be part of feedback.
   - Focusing events, such as crises or disasters, are an indication of an existing problem, which might be widespread and not an isolated case.

   The role of framing in this stream is key in determining if there is a

[1] Personal communication with former Danish government negotiator and co-chair Agriculture negotiations, SBSTA 40 & 42, 30-1-18.

problem (turning an issue or a condition into a problem), how the problem is defined, its scale (national or international), and how information is used and gathered to support the existence and framing of a problem (Dewulf, 2013). Framing of the problem will be key in determining the solutions (stream 2 ahead) (Benford and Snow, 2000; Dewulf, 2013; Rochefort and Cobb, 1994).

2 *Policy stream:* Solutions are proposed in policy processes, sometimes independently from the other two streams (Kingdon, 2014). Kingdon (2014) identifies three criteria for a proposal to make it into the agenda:
- technical feasibility: a proposal without inconsistencies, implementable, and "specifying the mechanisms by which an idea would be brought into practical use" (Kingdon, 2014: 131).
- values not in conflict with the policy community: values are different among and within groups of policy specialists, including their ideologies.
- anticipation of future constraints: some constraints can be so serious or difficult to overcome, that specialists decide not to go further, including budget limitations, politically unacceptability, or strong public opposition.

Pralle (2009: 786) also highlights that: "the public and policymakers must be convinced not only that we *should* do something […], but that we *can*."

The relevance of framing in this stream is observed in the creation of policy solutions, for instance "framing the range or nature of options to be considered" (Dewulf, 2013: 323), how uncertainty is framed, what will be measured and monitored and how, who will take action, who will benefit, and who is excluded (Dewulf, 2013).

3 *Political stream:* Kingdon's approach is focused on the national level, and considers elements of national mood, changes in administration or ideologies, and pressure groups (Kingdon, 2014) as influencing agenda setting. In an international context things might be more complex, as many more interests and actors are involved, while national governments' positions are influenced by these elements or forces back home. Coalition building and bargaining, characteristic features of the political stream (Kingdon, 2014), are both key in a national and international context. This article will look at the international political context in which discussions are taking place, pressure groups, government matters (e.g. jurisdiction), the coalitions, and bargaining.

Analysis of framing in this stream will assist us in understanding how things were framed to respond to the prevailing political mood, the bargaining and coalition building process, and address the pressure groups.

Kingdon also differentiates the general government agenda from a decision agenda ("a list of items up for actual action" (Kingdon, 2014: 20). According to Kingdon (2014), the three streams need to coincide so that an issue can pass onto the decision agenda. In other words, there should be a problem identified, a solution available, and the right political environment for an item to be taken forward to the decision agenda.

The role of policy entrepreneurs is key in making the three streams meet (Kingdon, 2014). They advocate for certain proposals and pave the way for when the window of opportunity opens (Kingdon, 2014). They are "… central in moving a subject up on the agenda and into position of enactment" (Kingdon, 2014: 180). An active policy entrepreneur increases the opportunities for an item to become part of the decision agenda, while chances are decreased "if no entrepreneur takes on the cause, pushes it, and makes the critical couplings when policy windows open" (Kingdon, 2014: 205). Entrepreneurs can use framing in a strategic way to highlight some problems over others, select certain indicators, frame solutions in attractive ways, and respond to certain political developments.

We have also added the role of "champions" to our analysis as a complement to our adapted Kingdon's framework. We define them as renowned international figures that use their reputation to advocate for certain issues, directly or indirectly supporting policy entrepreneurs in their efforts.

Table 1
Conceptual framework.
Adapted from Kingdon (2014).

Agenda setting & Framing	
Problem stream ● Feedback (including indicators) ● Focusing events ● Framing Policy stream ● Technical feasibility ● Values ● Anticipation of future constraints ● Framing Political stream ● International mood or climate ● Pressure groups ● Governments ● Consensus building ● Framing	Window of opportunity and role of policy entrepreneurs and champions

Our conceptual framework can be summarized as follows (Table 1):

3. Methodology

The research was undertaken from March 2014 through September 2017, and included an in-depth literature review, document analysis, and field research. Primary data collection included organizing an international workshop for policy advisors, researchers and practitioners working on forests, REDD + and/or agriculture on October 11–12, 2016 in Wageningen, The Netherlands. It brought together over 30 experts from 14 countries and organizations across Africa, Latin America, Asia, and Europe, as well as representatives from the Food and Agriculture Organization (FAO), United Nations Environment Programme (UNEP), International Fund for Agriculture Development (IFAD), and Latin America Development Bank (CAF).

This was complemented with 25 semi-structured in-person or video interviews with REDD + and agriculture experts involved in climate change mitigation, adaptation and/or food security matters at the national or international levels. Interviewees and workshop participants represented northern and southern countries, as well as intergovernmental organizations, NGOs, business and research institutes. Interviews per sector (Table 2) and workshop participants per sector (Table 3) are illustrated below.

Data collection also included participatory observation in different climate change negotiations, and forest, landscape and climate smart

Table 2
Number of interviewees per sector.

Sector	Number
Governments[a]	9
Intergovernmental Organizations	6
NGOs	4
Research institutes	3
Regional Financial Organizations	1
Farmer Organizations	1
Business[b]	1
	25

[a] Including a Minister of Agriculture and a former Minister of Environment of a developing country.

[b] WBCSD, which represents around 200 multinational companies.

Table 3
Number of workshop participants per sector.

Sector	Number
Governments	8
Intergovernmental Organizations	5
NGOs	2
Research	13
Regional Financial Organizations	1
Others	3
Total	32

Table 4
International events attended for fieldwork.

	Event	Venue and year
1	Conference of the Parties (COP 20) and SBSTA 41, UNFCCC	Lima, Peru. December 2014
2	Global Landscape Forum (GLF)	Lima, Peru. December 2014
3	Scientific Meeting on Climate Smart Agriculture	Montpellier, France. March 2015
4	SBSTA 42, UNFCCC	Bonn, Germany. June 2015.
5	COP 21 and SBSTA 43, UNFCCC	Paris, France. December 2015
6	Strategic Committee, Global Alliance on Climate Smart Agriculture (GACSA)	Rotterdam, The Netherlands. May 2016
7	SBSTA 44, UNFCCC	Bonn, Germany. May 2016
8	Annual Forum, GACSA	Rome, Italy. June 2016
9	Committee on Forests (COFO 23)	Rome, Italy. July 2016

agriculture (CSA) events (Table 4).

Data was analysed in a systematic manner, identifying the elements of the conceptual framework for the case studies, and conducting more interviews or searching for additional secondary data where gaps existed.

This research also builds on the first author's experience of twelve years in development, climate change, forest, environmental, and natural resource issues, in particular as a negotiator for the Government of Costa Rica when RED and later REDD + was introduced on the agenda of UNFCCC, in 2005 and 2007 respectively, and later as external advisor to the Directorate General for Agriculture of the Ministry of Economic Affairs of The Netherlands (2013–2016).

4. Forests on the climate change agenda

Key efforts to introduce global forest policy can be traced back to 1992 at the Rio Conference on Environment and Development, where some governments were aiming for a Forest Convention, representing a hard law approach, but the agreement remained in the soft law realm with the adoption of the so-called "Forest Principles". After Rio, for several years and at different fora (e.g. United Nations Forum on Forests (UNFF), UN Convention of Biological Diversity (CBD), and International Tropical Timber Organization (ITTO)), some actors were looking for stricter legislation and incentives to reverse the deforestation trend, but results were only modest. With the prominence of climate change in the international arena, and considering the role played by forests in tackling climate change, negotiations leading up to the Kyoto Protocol in 1997 provided a window for afforestation, reforestation and deforestation projects to be included as part of the Clean Development Mechanism (CDM), but tropical deforestation was ultimately left out (Schlamadinger et al., 2007).

To understand why REDD + became part of the Paris Agreement in 2015, one has to go back ten years to when the need to reduce emissions from deforestation in developing countries was introduced and put on the UNFCCC agenda (Fig. 1).

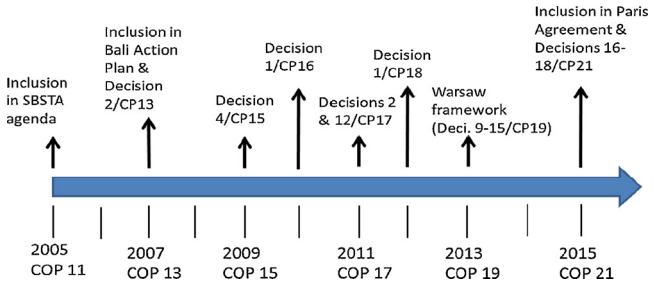

Fig. 1. Timeline of REDD + related decisions.2005–2015. Adapted from http://unfccc.int/land_use_and_climate_change/lulucf/items/6917.php.

4.1. Problem stream

4.1.1. Feedback, including indicators

Several reports were published in the early 2000 s, highlighting the significance of land-use change emissions. For instance, in 1998 SBSTA requested the Intergovernmental Panel on Climate Change (IPCC) to produce a special report for LULUCF (Schlamadinger et al., 2007), which was instrumental in the process leading up to the establishment of specific rules for land use, land-use change and forestry (LULUCF) under the Kyoto Protocol. This report highlighted that land-use change emissions, in particular deforestation, accounted for about one fifth of carbon emissions during 1990 s (IPCC, 2000). Years later, the IPCC Fourth Assessment report attributed 17.4% of global anthropogenic GHG emissions in 2004 to forestry (including deforestation) (IPCC, 2007a), still an important percentage.

4.1.2. Focusing events

Several extreme weather events also provided some grounds for justifying broader actions in addressing climate change. For instance, in 2002 a peak was reached in the number of persons that suffered from weather-related disasters; this included 300 million people in India who were victims of a serious drought, and 100 million Chinese affected by a sandstorm (CRED and UNISDR, 2015). Hurricane Katrina seriously affected the United States in 2005.

4.1.3. Framing

Two major problems were framed: firstly, the seriousness of the climate change threat. Raising the climate change issue in the minds of people as a serious threat, not only in poor but also in rich countries, reinforced climate change as a serious and global problem. In 2006 the movie "An Inconvenient truth" by Al Gore raised awareness on the climate change problem, and consequently, the pressure to find solutions. One year later, the IPCC as well as Al Gore were awarded the Nobel Peace Prize for their contribution to and dissemination of climate change knowledge and identification of countervailing measures (Nobel Foundation, 2007). Secondly, the focus was expanded from fossil fuel related emissions to other sectors, such as land-use[2]. In this context, to reinforce the magnitude of the problem, those supporting deforestation considerations in the climate regime utilized "alarming" comparisons such as "…the damage done by deforestation is comparable to the damage done by the world's largest polluter, the United States." (Stiglitz, 2006: 178). Deforestation was thus framed as a GHG emission problem, which was backed-up by several reports and media pointing at land-use change, in particular tropical deforestation, as being responsible for

[2] We define the land-use sector as including: agriculture, forestry and other land-use IPCC, 2014a. Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, in: Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K.;Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. (Ed.), Cambridge, United Kingdom and New York, USA.

about 17–25% of GHG emissions (Eliasch, 2008; FAO, 2005; Houghton, 2005; IPCC, 2000, 2007a; Kindermann et al., 2008; Le Quéré et al., 2009). This data was used, despite the fact that by the end of the 2000 s, emissions generated by land-use change, in particular deforestation, were no more than 11–12% of global GHG emissions (IPCC, 2014a; Le Quéré et al., 2009). This decrease was attributed to higher fossil fuel emissions, less deforestation and a rise in afforestation (IPCC, 2014a).

4.2. Policy stream

4.2.1. Technical feasibility

During the 1990 s and early 2000 s, measuring land-based carbon was believed to be complex, and it was repeatedly dropped from the agenda[3]. In the process leading up to RED/REDD + and its later inclusion in the Paris Agreement, scientific knowledge was enhanced (e.g. satellite remote sensing technologies), knowledge of different tree species and their carbon content increased and methodologies and guidelines were developed (DeFries et al., 2007; GOFC-GOLD, 2009; IPCC, 2000, 2003, 2006), resulting in an overcoming of the fear of dealing with land-use carbon[4] (Soto et al., 2016). Other technical considerations that had prevented agreements in the past, such as additionality, permanence and leakage (Pistorius, 2012), were addressed over the course of SBSTA discussions throughout the years.

4.2.2. Values

The common but differentiated responsibilities (CBDR) principle has been a core foundation of UNFCCC, even in 1997, when the Kyoto Protocol was negotiated, with industrialized countries (Annex 1 countries) having quantifiable emission reduction targets, while developing countries had no quantifiable obligations. REDD + was proposed as a voluntary mechanism to reduce emissions from deforestation **in and by** developing countries, **but supported by** developed countries through appropriate incentives. This not only reinforced the CBDR principle, but also helped ease concerns about national sovereignty, as it respected each State's authority over its natural resources, also a key principle in the UNFCCC (United Nations, 1992).

4.2.3. Anticipation of future constraints

One key constraint for many developing countries towards accepting any commitment or reference related to reducing deforestation was lack of funding. By 2005, the global economy was strong and developed countries were confident about paying developing countries incentives for reducing emissions in the forest sector[5]. Resources pledged by developed countries provided a trustful environment (Soto et al., 2016), which allowed negotiations to progress[6]. At the same time, the hopes for well-functioning carbon markets in the near future gained the support of some, and the rejection of others, who critiqued market-based approaches (BASIC Governments, 2013; Den Besten et al., 2014; Greenpeace, 2008; Humphreys, 2008). In 2005, the EU introduced the European Trading Scheme (ETS), however, LULUCF credits were excluded from it (Ellison et al., 2014). This, together with complex methodologies and modalities, discouraged private investors from investing in LULUCF credits (Capoor and Ambrosi, 2007). On the other hand, the second half of 2000 saw the emergence of several bills to regulate GHG emissions in the USA, some of which included land use as an offset option (Resources for the Future, 2008). Its potential inclusion in the compliance markets was seen as a positive signal by some and as an anticipation of future constraints by others (e.g. polluting industries).

4.2.4. Framing

In its early stages, RED was promoted as a cheap and cost-effective way to reduce emissions. It was framed as "low hanging fruit" to address one quarter of emissions. Both the Stern report (2007) and Eliasch Review (2008), which had worldwide outreach during that time, confirmed that reducing emissions from deforestation was a highly cost-effective measure. Reducing forest-related emissions was reframed from a "payment for doing nothing"[7] to compensation for the lost income or opportunity costs of keeping their forests standing and also for recognizing forests' role in absorbing carbon from the atmosphere (Soto et al., 2016)[8].

The policy stream for REDD + and its key components can be summarized with this excerpt of Norwegian Prime Minister Jens Stoltenberg's statement during UNFCCC/COP13 in Bali:

> "Through effective measures against deforestation we can achieve **large cuts** in greenhouse gas emissions - **quickly and at low cost**. The **technology is well known** and has been available for thousands of years. **Everybody knows how not to cut down a tree**. Therefore I am pleased to announce that the Norwegian government is prepared to increase its support to prevent deforestation in developing countries to more than **500 million US dollars a year**. I urge other countries to join us in these efforts." (Stoltenberg, 2007)

4.3. Political stream

4.3.1. International mood or climate

The Kyoto Protocol entered into force in 2005, and its first commitment period was from 2008-2012. During this time, the technical discussions revolved around what the rules were going to be for the second commitment period. The political attention was focused on if and how something more inclusive could be developed. Firstly, to address the fact that the United States was not part of the Protocol, and secondly, emerging economies had an increasing responsibility in global emissions, but had no quantifiable targets, undermining any progress that could be achieved via the Protocol in terms of emissions' reductions. This allowed stakeholders to start thinking of new proposals and ways for addressing climate change, e.g. land-use emissions in developing countries, referring to the original 1992 UNFCCC text, in which forests were explicitly referred to as sinks.

4.3.2. Coalition building

The Coalition for Rainforests Nations (CfRN), led by Costa Rica and Papua New Guinea, was pushing for the consideration of RED from 2005 onwards, but the group needed the support from other developing countries to increase pressure on developed countries, and to counterbalance Brazil's opposition to RED. During COP13 in Bali (2007), African countries were strongly insisting that "forest degradation" should be part of a future mechanism to address emission reductions in the forest sector. At the same time, other countries, such as India, wanted to include conservation, while China was pushing for sustainable management of forests and enhancing forests' carbon stocks. The result was what we now know as REDD + : "reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries". Because REDD + accommodated all those interests, support for it became stronger and more inclusive[9] (Soto et al., 2016).

The OPEC countries were also key, because they were needed to allow the process to move forward. They saw REDD + as an

[3] Interview, Executive Director, Coalition for Rainforest Nations (CfRN)
[4] Interview, Executive Director, CfRN.
[5] Interview, Executive Director, CfRN
[6] Interview, Executive Director, CfRN
[7] Interview, developing country- Asia
[8] Interviews, developing country- Asia & Executive Director, CfRN
[9] Interview, developing country- Asia

Table 5
REDD + Pressure groups.

Pressure Group	Position on REDD+
NGOs (Non-Governmental Organizations)	Against: - Concerned about the use of forest carbon credits and markets to offset emissions in developed countries instead of achieving reductions at the source (CEPLAES et al., 2013; Den Besten et al., 2014), including Greenpeace, Third World Network, Friends of the Earth. - Worried that other ecosystem services or local populations would be affected (Chhatre et al., 2012) In favour: - Those who visualized co-benefits such as biodiversity conservation, addressing indigenous peoples' concerns[a] (Chhatre et al., 2012), including Conservation International, The Nature Conservancy (TNC).
Indigenous Peoples	Some groups were strong opponents of REDD + because of concerns over land tenure security and displacement, need to participate in REDD + process, and indigenous rights (Chhatre et al., 2012; Larson, 2011; Osborne et al., 2014).
Private sector (timber, logging, construction, furniture)	In particular from Europe and Japan. Interested in addressing illegal logging, via certification schemes[b], EU FLEGT (Forest Law Enforcement, Governance and Trade), etc.

[a] Interview, developing country- Latin America 1.
[b] Interview, developing country - Latin America 1.

opportunity to deviate attention from fossil fuel usage[10]. REDD + would allow developed countries to compensate their emissions and continue buying oil[11].

These political developments allowed the developing countries to find a common position and negotiate as a group through the Group of 77 and China (developing countries' negotiating block).

4.3.3. Pressure groups

Played an important role in the development of REDD+, as shown in Table 5.

4.3.4. Governments

In 2010, 76% of forests worldwide were owned by the State (FAO, 2015), thereby allowing governments to have a direct influence on REDD + and interest in its funding. Furthermore, ministries of the environment are often the focal point[12] of the UNFCCC and forests usually fall within their jurisdiction, simplifying decisions pertaining to them.

Additionally, intergovernmental initiatives outside the UNFCCC, like the Forest Carbon Partnership Facility (FCPF) by the World Bank and UN-REDD by FAO, UNEP and UNDP, were also key in feeding negotiations and providing evidence (Visseren-Hamakers et al., 2011). Bilateral funding has also supported developing countries in operationalizing REDD + at the national level, through, i.a. capacity building and improving forest governance (EU REDD Facility, 2017; Watson et al., 2016). Main donors include Norway, USA, Germany, Japan and the United Kingdom (Norman and Nakhooda, 2014).

4.3.5. Framing

The main framing aspect that can be identified is "inclusion" to obtain political support and accommodate different interests. Firstly, the inclusion of the land-use sector, considering that current efforts on traditional sectors (e.g. energy, transportation) were not going to be enough or would be undermined by deforestation emissions (Stiglitz, 2006). Secondly, the inclusion of developing countries in mitigation actions (Den Besten et al., 2014). Finally, the consideration of other forest-related activities, such as forest degradation, the items listed under the "+" part of REDD+, and safeguards[13].

4.4. Policy entrepreneurs

The main policy entrepreneur has been the Coalition for Rainforest Nations (CfRN). The Coalition had an important role in strategizing and planning the inclusion of RED/REDD + in the international climate agenda, and getting the needed support. While in 2005 there were many unresolved questions and concerns at the policy and political levels, policy entrepreneurs worked hard to develop coalitions, and have SBSTA address the main concerns. They also were key in changing some countries' perceptions regarding risks[14] (leakage, permanence, etc.), and framing the solutions in a politically acceptable way. At the same time, as a policy entrepreneur, Norway's early support in this process, both financially and politically, can be considered key for raising and sustaining REDD + in the international climate change agenda, as it demonstrated the will of developed countries to support this endeavour early in the process, thereby opening the door for others to follow.

Policy entrepreneurs undertook significant efforts outside of the negotiations to gain support from close constituencies[15] (e.g. Alliance of Small Island States (AOSIS) group, Commonwealth countries, Central American Integration System (SICA)). By COP11 in Montreal, there were at least 90 countries supporting or at least not blocking the negotiations[16].

The role of "champions" is worth recognizing. In the case of REDD +, we can highlight for instance Joseph E. Stiglitz, Nobel Prize Laureate in Economics (2001), who worked very closely with the CfRN and wrote a book titled "Making globalization work", addressing the need to provide positive incentives for developing countries to keep their forests standing (Stiglitz, 2006); Johan Eliasch (see above); Prince Charles with his support for tropical rainforests, including the creation of the Prince's Rainforests Project (in 2007); and Wangari Maathai, Nobel Peace Prize Laureate in 2004, who also advocated for the role of forests in the context of climate change.

The different streams can be summarized as follows (Table 6):

5. Agriculture on the climate change agenda

Although agriculture as a sector was mentioned in the original UNFCCC text for both mitigation and adaptation (United Nations, 1992), agriculture has not received much attention historically as a mitigation option (Dickie et al., 2014). As indicated by one of our interviewees: "Agriculture in the UNFCCC agenda has not been so much on estimating emissions and removals but more on relevant practices e.g. early warning systems, adaptation to climate change, sustainable intensification etc."[17] There are some agriculture CDM projects

[10] Interview, developed country- EU
[11] Interview, Executive Director, CfRN
[12] See http://unfccc.int/parties_observers/parties/national_focal_points/items/9336.php
[13] Indigenous peoples' concerns, as well as those from donors and other stakeholders, led to the creation of social and environmental REDD+ Cancun safeguards (Chhatre et al., 2012; Den Besten et al., 2014; Pistorius, 2012).
[14] Interview, developing country - Latin America 1
[15] Interviews, Executive Director, CfRN; and developing country- Latin America 1
[16] Interview, Executive Director, CfRN
[17] Personal communication with former Danish government negotiator and co-chair Agriculture negotiations, SBSTA, 30-1-18

Table 6
Overview of agenda setting and framing for REDD+.

Dimensions	Main elements
Problem stream	
• Feedback, including indicators	- Different reports indicating that land-use change, in particular deforestation, is responsible for 17-25% of GHGs - IPCC Special Report on LULUCF in 2000
• Focusing events	- Peak in worldwide weather-related disasters (2002-2005)
• Framing	- Climate change as a serious global problem - Deforestation as a GHG emission problem - Significant emphasis on deforestation's contribution to overall GHGs emissions.
Policy stream	
• Technical feasibility	- Scientific knowledge enhanced - Methodologies and guidelines developed
• Values	- Respect for the CBDR principle - Sovereignty concerns addressed
• Anticipation of future constraints	- Funding pledged by developed countries
• Framing	- REDD + as a cost-effective solution - Forests as sinks
Political stream	
• International mood	- Need to include other sectors - Need to develop a more inclusive agreement
• Consensus building	- Large and strong coalition of developing countries - Inclusion of other forest-related activities - OPEC glad to deviate focus from fossil fuels
• Pressure groups	- NGOs, Indigenous Peoples, private sector
• Governments	- Forests mostly owned by States - Environment-related Ministries main UNFCCC focal point in many countries - FCPF, UN-REDD, bilateral funding
• Framing	- Aspects of inclusion to gain political support (e.g. forest degradation, safeguards)
Policy entrepreneurs and champions	
- CfRN - Norway - champions supporting efforts	Key in making three streams meet and sustaining efforts through the years

registered, however, as indicated by Larson et al (2011: 2) "… most projects have to do with agriculture as a source of bio-energy, and that few projects tap the mitigation potential associated with changing how agricultural lands are used." However, in 2005, SBSTA decided to hold several mitigation workshops, one of which addressed "Agriculture, forestry and rural development" (UNFCCC, 2006). Also, countries are expected to report on their agriculture emissions, as on any other sector[18] (Tubiello et al., 2015). In 2011, at COP 17 in Durban, an item called "Issues related to agriculture" was included in the SBSTA agenda (UNFCCC, 2011). This was the result of a complex process that started in COP 13 (Bali 2007) with the discussion of sectoral approaches under mitigation efforts (UNFCCC, 2007). COP 17 (in 2011) can be considered the first time that agriculture "was included … on the formal agenda of one of the bodies established under UNFCCC" (Kalfagianni and Duyck, 2015: 10)[19]. The mandate was to exchange views and adopt a decision by COP 18 (UNFCCC, 2011: Decision 2/CP.17). Despite these efforts, no significant policy change has been achieved. Discussions have ended with conclusions, not decisions, with a recent exception in past COP 23, when a new agenda item "Koronivia joint work on agriculture" was agreed upon[20]. Fig. 2 provides an overview of the timeline since 2011,

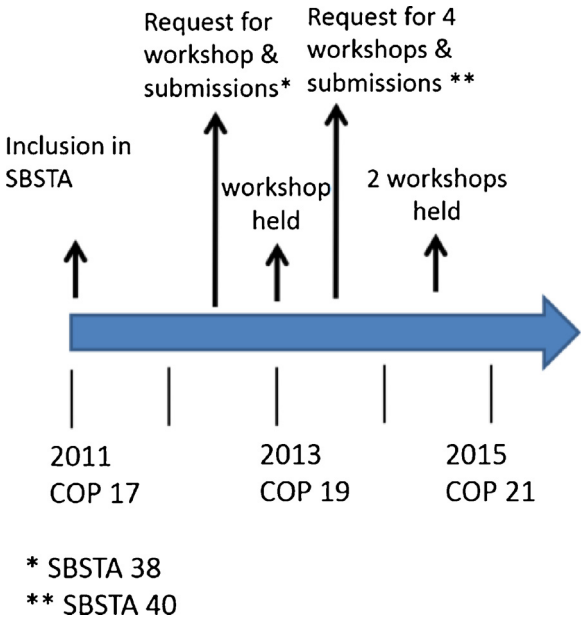

Fig. 2. Agriculture's timeline.2011–2015.
Adapted from: http://unfccc.int/land_use_and_climate_change/agriculture/items/8793txt.php.

when the item was put on the SBSTA agenda, until 2015.

5.1. Problem stream

5.1.1. Feedback, including indicators

Several reports have highlighted that emissions from agriculture are increasing (FAO, 2014; Smith et al., 2007). For instance, between 2001 and 2011 global agricultural emissions increased by 14% (FAO, 2014). This data draws attention to the fact that most agricultural emissions (about 75%) are taking place in non-Annex 1 countries (FAO, 2014; Wilkes et al., 2013), and that in many developing countries agriculture is the main emissions source. In 42 developing countries, agriculture even represents over half of their national GHG emissions (Richards et al., 2015b). According to these reports, agricultural emissions are expected to continue increasing in the coming decades (Climate Focus et al., 2011; Wilkes et al., 2013), with agriculture continuing to expand to forested areas[21] (Kissinger, 2013). At the same time, agriculture can be affected by climate change, threatening food security (Beddington et al., 2011; World Bank, 2007).

5.1.2. Focusing events

The global food crisis in 2007/2008 was an important event that partially pushed agriculture onto the climate change agenda. Food prices increased significantly, leading to riots and government destabilization in many countries (United Nations, 2011). Climate change was highlighted by some as one of the factors influencing this crisis, for instance droughts affecting grain and cereal production in certain countries (United Nations, 2011). Other studies considered that while not a key trigger in this crisis, climate change would be a major concern for food production in the future (Headey and Fan, 2010). Increased demand for biofuels, which are implicitly linked to agriculture, energy and climate policies, was also considered a trigger (IISD, 2012; United Nations, 2011).

[18] Interviews Executive Secretary UNFCCC (2010-2016); and FAO

[19] For more details, see Kalfagianni, A., Duyck, S., 2015. The evolving role of agriculture in climate change negotiations: Progress and players, Kibo Consulting, UK Met Office, 2014. Options for agriculture in the 2015 international climate change agreement, United Kingdom, p. 32.

[20] In 2017, after the timeline of this article, COP23 finally reached a decision (Decision 4/CP23 in FCCC/CP/2017/11/Add.1). This decision mandates SBSTA and the Subsidiary Body for Implementation (SBI) "to jointly address issues related to agriculture", keeping in mind agriculture's vulnerability and food security. The scope of this work and the extent to which future agreements will consider mitigation, is still to be seen.

[21] Interview, International Coffee Organization

5.1.3. Framing

Initially the general focus was more on agriculture as a sector vulnerable to climate change and its adaptation needs. More recently, the problem has mainly been framed as agriculture facing the challenge of increasing food production while keeping emissions low and adapting to climate change, in light of the growing world population[22] and changing diets (e.g. more people eating more animal products), in particular in developing countries. For instance, the FAO estimates that compared to 2005/2007 levels, production should be increased by 70% by 2050 to feed the growing population, (FAO, 2009)[23]. This will have an impact on emissions related to agriculture. From a "responsibility" perspective, developing countries are implicitly underlined as responsible or having the major burden for addressing this problem, since most agricultural emissions mainly come from these countries, and the majority of the population growth and changing diets also take place here. Developed countries, on the other hand, have not only lowered their agriculture emissions, but also the area dedicated to agriculture (Gibbs et al., 2010).

Considering that the IPCC Fifth Assessment Report merged agriculture, forestry and land-use data in one single report (IPCC, 2014a), agriculture policy entrepreneurs are using integrated forestry and agriculture data to highlight the contribution of the land-use sector and continue using the "one quarter reference", for instance: "The land sector accounts for about a quarter of net anthropogenic GHG emissions, mainly from deforestation, agricultural emissions from soil management practices, and livestock." (CGIAR/CCAFS, 2016)

5.2. Policy stream

5.2.1. Technically feasible

Important research has been undertaken and different climate-friendly technologies and practices have been developed to lower agricultural emissions and enhance its resilience. However, their adoption by farmers is low (Wreford et al., 2017). Also, IPCC identifies several mitigation options that can be implemented in the short term with current available technologies or practices, with universal applicability by farmers (Smith et al., 2014). However, the difficulty of measuring, reporting and verification (MRV) for millions of farmers (Kibo Consulting and UK Met Office, 2014), the need to develop more precise IPCC emission factors (Campbell et al., 2011), and the lack of systematic collection of data at the national level have been highlighted as major challenges (Rosenstock et al., 2013). This was also confirmed by several of our interviewees. The risk of reversals or non-permanence is also a challenge (Dickie et al., 2014; IPCC, 2014a; Soussana et al., 2017). More work needs to be done as well on metrics and indicators for adaptation [24] (Campbell et al., 2011).

5.2.2. Values

While considering agriculture in a more comprehensive way under the UNFCCC, in particular its mitigation component, is positive for the environment, it is seen by some developing countries and other stakeholders as undermining their (food) security, and as such, their sovereignty and right to development. Agriculture is a sensitive sector in many developing countries, as it represents an important part of their Gross Domestic Product (GDP)[25] (Smith et al., 2014). For them, it also jeopardizes the principle of CBDR, as the risk of global mitigation targets and restrictions (see below), considers all countries as "equal", while their capacities and needs are different.

5.2.3. Anticipation of future constraints

Main concerns can be classified as follows (Table 7).

5.2.4. Framing

There is no clear solution framed that addresses the main concerns and the multiple values of agriculture. There is an attempt by some policy entrepreneurs to make agriculture be part of the solution, as its mitigation potential has been highlighted as an opportunity, instead of a problem[26] (Graziano da Silva, 2016; Wilkes et al., 2013; World Bank, 2017a). At the same time, some mitigation actions have been highlighted as having a positive effect (co-benefits) on adaptation and food security (Frank et al., 2017; Soussana et al., 2017). Still, there is no clear way forward within the traditional mechanisms in the UNFCCC. Since 2009 and outside the UNFCCC, Climate Smart Agriculture (CSA) has been developed as an approach that reduces emissions and increases resilience and productivity in agriculture.

5.3. Political stream

5.3.1. International mood or climate

Governments recognize the importance of the agriculture sector, especially for food security (Campbell et al., 2011), ending hunger, improving nutrition, and generating income for the rural poor[27]. Within climate governance, two major shifts have influenced consideration of agriculture on the climate agenda. Firstly, as with forests, it has been recognized that we need to include other sectors besides the traditional ones (energy, transport) in order to effectively address climate change. Secondly, the North-South differentiation, or Annex 1 versus non-Annex 1 countries, is not so clear any more, as emerging economies have started to emit significant quantities of GHGs[28] (Climate Watch, 2018). This was not envisaged when the Kyoto Protocol was being negotiated[29]. There is also pressure within and among countries to reduce emissions, with 131 INDCs (Indicative Nationally Determined Contributions) considering agriculture (including mitigation, adaptation or both) (Richards et al., 2015a). At the same time, the vulnerability of the agriculture sector to climate change has been highlighted for some years (IPCC, 2007b, 2014b; UNFCCC, 2010).

5.3.2. Pressure groups

We can identify the following key stakeholders pushing in different directions (Table 8).

5.3.3. Governments

The consideration of agriculture within the climate discussions is in general supported by Ministries of Agriculture (see e.g. the Johannesburg Communiqué of The African Ministerial Conference on CSA, (2011). However, the political support for its inclusion in climate negotiations is limited. Climate negotiations are usually a jurisdiction of Ministries of Environment or Foreign Affairs[30]. In many countries, environmental and agricultural policies conflict with one another[31]

[22] Estimated as 9,7 billion people by 2050 United Nations, 2017. World Population Prospects: The 2017 Revision, Key Findings and Advance Tables. Working Paper No. ESA/P/WP/248., New York, USA.

[23] CGIAR and World Bank also estimate that agricultural production will need to be increased significantly Beddington, J., Asaduzzaman, M., Fernandez, A., Clark, M., Guillou, M., Jahn, M., Erda, L., Mamo, T., Van Bo, N., Nobre, C.A., Scholes, R., Sharma, R., Wakhungu, J., 2011. Achieving food security in the face of climate change: Summary for policy makers from the Commission on Sustainable Agriculture and Climate Change. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Copenhagen, Denmark, World Bank, 2017b. Climate-Smart Agriculture. World Bank, Washington DC, USA.

[24] Interviews, developing country - Latin America 2; and Research Organization 2

[25] Interview, NGO 2

[26] Interview, World Bank.

[27] See Sustainable Development Goal nr. 2 and related targets at https://sustainabledevelopment.un.org/sdg2.

[28] Interviews, developing country-Latin America 3 and 4; and Executive Secretary UNFCCC (2010-2016).

[29] Interview, developing country Latin America 4.

[30] See for instance the national focal points to UNFCCC at http://unfccc.int/parties_observers/parties/national_focal_points/items/9336.php.

[31] Interview, developing country Latin America 4

Table 7
Agriculture's main constraints.

Concern	Explanation
More commitments and trade concerns	• Fear that a work programme on agriculture under SBSTA/UNFCCC can lead to quantifiable mitigation targets and more commitments[a], non-tariff barriers[b] (Kibo Consulting and UK Met Office, 2014), or tax border adjustments[c], compromising food security (Campbell et al., 2011). • The corporate control and the rise of patents for climate-resistant crop varieties and the extent to which poor farmers will be able to afford them (Campbell et al., 2011).
Land tenure, legislation and displacement	• Challenges in many developing countries related to land tenure (Kalfagianni and Duyck, 2015), including weak or absent regulations and their enforcement (Soto et al., 2016). • Risk of displacement of local populations (Kalfagianni and Duyck, 2015), as has happened with industrial tree plantations[d] (Gerber, 2011)
Financial unfeasibility and lack of incentives	Access to and cost of technologies for developing countries, in particular, for low-income smallholder farmers, and lack of incentives[e].
Shifting behaviour	Some mitigation strategies might need to address the demand side, shifting current consumption patterns (Kalfagianni and Duyck, 2015) and reducing food waste[f] (Kibo Consulting and UK Met Office, 2014).

[a] Interview, developed country-North America.
[b] Interview, developed country- EU.
[c] Interview, Executive Secretary UNFCCC (2010–2016).
[d] Interview, Farmer Organization-Asia.
[e] Interview, developing country- Asia.
[f] Interview, developing country- Latin America 3.

Table 8
Agriculture pressure groups.

Pressure Group	Position on agriculture in UNFCCC
NGOs	In favour: - Environmental NGOs (e.g. the Environmental Defense Fund, Conservation International) support a comprehensive consideration of agriculture in the climate regime. Against: - Some NGOs (including Econexus, ActionAid) are concerned that agriculture's offsets in developing countries will prevent emission reductions in industrialized countries (Anderson, 2014; Ensor et al., 2009). - Other food security/nutrition-oriented NGOs (e.g. La Via Campesina, Coopération Internationale pour le Développement et la Solidarité - CIDSE) consider mitigation as a threat to food security. Some of these NGOs, e.g. *Action Contre la Faim*, also oppose the consideration of agriculture outside intergovernmental mechanisms, as they fear the risk of private sector dictating its own rules[a].
Agri-Food/business	- In general, those being affected by national or regional stricter regulations feel disadvantaged when competing with foreign businesses that are not subject to strict regulations; or fear losing their international suppliers, as they might not satisfy these requirements (Campbell et al., 2011). Several companies (e.g. Cargill, Wilmar International, Unilever, Kellogg's) are undertaking voluntary actions, like zero deforestation commitments[b] (Cargill, 2017; Chain Reaction Research, 2015; Nations, 2014). - Agri-business in countries where legislation is not so strict are not keen to new requirements or targets.
Farmers' Organizations	- Broad support for the need to recognize and support adaptation needs[c]. - Mitigation benefits are perceived as long-term and less tangible, and adaptation benefits as short-term and more urgent[d] (Smith et al., 2007; Soto et al., 2016; Wreford et al., 2017). Unless there is funding[e] or other market incentives[f] it is unlikely that farmers in the South will engage in mitigation actions.

[a] Interview, NGO 3.
[b] Interview, WBCSD & NGO 2.
[c] Interview, Farmer Organization-Asia.
[d] Interview, Executive Secretary UNFCCC (2010–2016).
[e] Interview, Research Organization 3.
[f] Interview, developing country - Latin America 1.

(Henle et al., 2008), so there is some resistance to combining agendas. The above communiqué, which was sent "for consideration and further processing" (African Ministerial Conference on CSA, 2011: paragraph 14) to the African Ministers Conference on Environment (AMCEN), did not receive support from these ministers[32]. At the same time, Foreign Affairs Ministries are cautious as they see agriculture as a potential source of conflict due to food security or economic implications at the national level.

5.3.4. Consensus building

There are two main positions, one supporting the development of an agriculture work programme, including mitigation within SBSTA/UNFCCC; this is mainly supported by several developed countries, such as USA, New Zealand, the European Union, intergovernmental organizations, such as the FAO and World Bank, and research organizations. The second block is composed of some developing countries under the umbrella of the G77 (e.g. Argentina and some African countries), who want to limit discussions to adaptation, thereby preventing the development of a work programme. Considering the lack of progress within the traditional negotiation mechanisms, several countries, IGOs and NGOs have gathered outside the UNFCCC to form a Global Alliance on Climate Smart Agriculture (GACSA), or regional partnerships, such as the African Alliance on CSA, to demonstrate the benefits of such an approach on the ground and to engage other non-state actors[33].

5.3.5. Framing

To keep the SBSTA agenda item "alive", supporters of an agriculture

[32] Interview, World Bank

[33] Interviews, developed country-North America; and World Bank

Table 9
Overview of agenda setting and framing for Agriculture.

Dimension	Main elements
Problem stream	
• Feedback, including indicators	- Increase in agriculture emissions, particularly in non-Annex 1 countries - Agriculture expanding into forested areas
• Focusing events	- Climate change as one trigger in the 2007/2008 global food crisis
• Framing	- Need to increase agricultural production, due to increasing populations and changing diets, while keeping emissions low and adapting to climate change - Implicit responsibility of developing countries
Policy stream	
• Technically feasible	- While there is some progress on technologies and mitigation options, important technical and adoption barriers exist, as well as lack of data to enable implementation and monitoring
• Values	- Environmental values versus food security, sovereignty and the right to development - Weakening of CBDR principle
• Anticipation of future constraints	- Fear of more commitments and trade concerns, affecting food security - Land-tenure, - legislation and displacement challenges - Financial unfeasibility and lack of incentives - Shifting behaviour (consumption patterns)
• Framing	- Attempt to make agriculture part of the solution, but no clear proposal that addresses the multiple values of agriculture
Political stream	
• International mood	- Need to include land-use sector - Agriculture important for achieving Sustainable Development Goals (in particular SDG 2) - Evolution of CBDR principle
• Pressure groups	- NGOs, Agri-Food business, farmers
• Governments	- Jurisdiction problem among Ministries of Agriculture and Environment
• Consensus building	- Different positions on agriculture adaptation and mitigation - One group impeding progress as a block (G77) - Another group supporting progress, but no unified position (specially developed countries)
• Framing	- Contribution determined via NDCs - Mitigation 'camouflaged' in workshops
Policy entrepreneurs and champions	
Mix of policy entrepreneurs (Governments, IGOs, Research Organizations) Sir John Beddington as champion	- Achieved introduction of agriculture into SBSTA agenda in 2011 - Not acting as a block - Mistrust of the US and World Bank - Development of GACSA

work programme have not been able to go beyond workshops - mostly focused on adaptation - and preparation of submissions, mainly because of the friction between adaptation and mitigation. Mitigation is somehow "camouflaged" in workshops addressing co-benefits, efficiency or enhancing productivity in a sustainable manner, and can be addressed in each country's NDC. The tendency is to be less prescriptive and let governments decide, in accordance with their national circumstances and capabilities, how they are going to contribute to the 1,5-2 degrees target via their NDCs (Soto and Visseren-Hamakers, 2018 (in press)). As one interviewee stated: "Countries are talking about making contributions instead of commitments"[34].

5.4. Policy entrepreneurs

Since 2009, and with the introduction of the CSA concept by FAO to the "Hague Conference on Agriculture, Food Security and Climate Change" held in 2010 (FAO, 2010; Government of The Netherlands, 2010), several stakeholders have re-joined the efforts to introduce agriculture on the climate agenda in a more comprehensive way. The main policy entrepreneurs are a combination of governments, research organizations, NGOs and IGOs, in particular The Netherlands, New Zealand, USA, South Africa, African Union, CGIAR/CCAFS, FAO and the World Bank. Policy entrepreneurs have been active through lobbying[35]; publishing reports; three Global Conferences on Agriculture, Food and Nutrition Security and Climate Change, in 2010 (The Netherlands), 2012 (Vietnam), and 2013 (South Africa), sponsored by The Netherlands and supported by FAO and the World Bank; side events during COPs; Agriculture and Rural Development Day parallel to COPs since 2009 and to Rio + 20; and launching of the GACSA during the United Nations Secretary General Climate Summit held in 2014.

The fact that the USA and the World Bank are behind the inclusion of agriculture in a more comprehensive way in climate negotiations as well as the promotion of CSA creates some mistrust from many developing countries and NGOs. USA's international reputation on climate change negotiations has been problematic, including not ratifying the Kyoto Protocol[36]. As for the World Bank, its perceived support for private sector's interests, promotion of trade liberalization (Wise and Murphy, 2012), and carbon markets raises several concerns in many developing countries.

As for champions, Sir John Beddington, UK Chief Scientific Advisor (2008–2013), played an important role leading up to COP 17's inclusion of agriculture on SBSTA's agenda.

The different streams can be summarized as follows (Table 9):

6. Discussion and conclusions

This paper has presented a comparative analysis of agenda setting and framing in an international context. It has contributed to our understanding of how tropical deforestation has managed to become integrated into the global climate change decision agenda through REDD +, while agriculture, with more recent efforts, has not made much progress. The research has analysed different elements under problem, political, and policy streams, based on Kingdon's MSA on agenda setting as well as framing considerations. Framing has been key in this analysis, with an additional layer highlighting frames, and identifying the extent to which policy entrepreneurs have used framing in a

[34] Interview, NGO 1
[35] Interview, World Bank
[36] And more recently by the announcement of the US of its retirement from the Paris Agreement

strategic way to generate policy change and how they have done so.

Forests and tropical deforestation have been a sensitive issue for many years. Despite the initial knowledge gaps and lack of agreement on technical aspects, its inclusion into SBSTA's agenda in 2005 gave rise to a series of decisions, funds and actions on the ground. The urgency of reducing GHG emissions as a whole, and the realization that efforts in traditional sectors were not enough, pointed to REDD + as a short-term and cost-effective solution that can be undertaken by developing countries with the support from the international community. The availability of funding sources to support developing countries technically and financially in this endeavour (e.g. the readiness funds), enabled a trusting environment and demonstrated political will. Policy entrepreneurs played a decisive role in making the three streams meet. By COP 21 in Paris, REDD + had been on the decision agenda for ten years. Although the rate of deforestation globally has decreased (FAO, 2015), it continues to be a serious problem and an important emission source. REDD + had reached a level of maturity and common understanding, i.e., it had developed a legal and methodological framework[37]. Its inclusion in Article 5 of the Paris agreement signals that REDD + is regarded as part of the solution to achieve global mitigation goals (Climate Focus, 2015).

Agriculture is an even more complex sector, with multiple stakeholders and objectives. Former UNFCCC Executive Secretary indicated: "…all sectors are included in the Convention, however, not all sectors have the same maturity and understanding, or methodology on how to regulate them; they get regulated in accordance with technical and political agreements"[38]. Its inclusion in SBSTA's agenda in 2011 represented an important step, but moving further to the decision agenda has been, and will most likely continue to be difficult, despite the latest developments at COP 23 (i.e. the Koronivia joint work on agriculture). Within the UNFCCC, the streams have not been linked. A committed and perseverant policy entrepreneur, with access to the negotiations and who is considered reliable by different negotiating blocks, has been lacking. The technical and knowledge challenges are important, as there are different types of farming activities and crops, as well as types of GHGs emanating from them (IPCC, 2014a; Kibo Consulting and UK Met Office, 2014; Rosenstock et al., 2013). However, the largest constraint is not technical in nature, but is related to concerns over food security, but mostly, food production. Agriculture represents an important economic sector in many developing countries, and developed countries continue to invest significant amounts in agricultural subsidies[39] (OECD, 2017). And while REDD + has benefited from a group of committed donors that stepped in to support REDD + during its earliest stages (such as Norway), agriculture has not enjoyed the same support.

It is important to highlight that while REDD + is limited to developing countries, the consideration of agriculture is relevant to all countries[40] (Kibo Consulting and UK Met Office, 2014). There are millions of farmers around the globe, with different production scales and financial resources, which makes implementation more complex than in forests. However, despite the complexity, there is pressure to engage the land-use sector in mitigation efforts. Some willingness is visible, as seen with the inclusion of agriculture and forestry within the NDCs.

In terms of framing, both forest/REDD + and agriculture have some common understanding of what the problem is. In the case of REDD+, it was argued that land-use change, in particular deforestation, was the cause of almost 17–25% of global GHG emissions. Policy entrepreneurs capitalized on this fact to justify the need for further action. Emissions from agriculture also have an important share (FAO, 2014). Reports have alerted that agriculture emissions are expected to increase and that the agriculture sector is the largest emitter of non-CO2 GHG (IPCC, 2014a). This points at a clear problem in need of a solution; however, since these emissions' increase is apparently tied to food security concerns and growing populations, policy entrepreneurs, have been a bit more cautious in using this information to make a case, in our view. The scope and the framing of agriculture under the UNFCCC thus remains focused on production[41], while neglecting elements such as improving access to balanced and nutritious food, or changing consumption habits.

There are also important differences in terms of framing within the policy and political streams. In the case of agriculture, a convincing proposal or solution that addresses the multiple objectives of agriculture, including food security, and brings financial incentives along, has been missing. Climate Smart Agriculture is being discussed outside the UNFCCC as a potential solution, but there are different interpretations as to what it entails. At the same time, developing countries would like to be assured that incentives are part of the framed solution and that technology will be developed and shared[42] (Soto et al., 2016), so that the fear of new commitments or targets is overcome. For this to happen, political will needs to be more visible. REDD + on the other hand, was framed as a cost-effective solution and enjoyed political will.

Kingdon's model has been a useful tool for enhancing the understanding of the difference in the agenda setting of tropical deforestation and agriculture in international climate change negotiations. Our findings validate in several aspects his explanation of how and why items emerge on agendas, for instance, the role of active and committed policy entrepreneurs. In the case of REDD + there was a group of policy entrepreneurs that coordinated and sustained efforts for over ten years, while in the case of agriculture, efforts have taken place more in isolation. Being respected and trusted by the different blocks are, in our view, also important qualities of a policy entrepreneur. For instance, Costa Rica brought some credibility to the process[43] by demonstrating how it managed to increase its forest cover through its programme on Payment for Environmental Services (PES), where absorption of CO2 was one of the services recognized. With the entrepreneurs representing two developing countries, the CfRN's initiative avoided higher resistance from other developing countries, and gained the interest of developed countries.

Kingdon also highlights how actors sometimes support a proposal since "joining the coalition occurs not because one has simply been persuaded of the virtue of that course of action, but because one fears that failure to join would result in exclusion from the benefits of participants" (Kingdon, 2014: 159). We can see this in the case with Brazil, which seriously opposed RED/REDD + in its early stages. However, as REDD + gained more attention and funds were pledged, it saw REDD + as an opportunity to obtain resources to continue reducing its deforestation rates[44]; it also saw the chance to commit to GHG emissions' reductions as evidenced in its National Policy for Climate Change (The REDD Countries Database, 2011), since as an emerging economy, it was receiving international pressure to do so [45]. The country realized that it gained more by being part of REDD + than being excluded[46]. There were also a number of smaller countries that joined the CfRN, since they saw it as an opportunity to make their voices heard and not be excluded from the potential benefits.

Integrating a framing perspective into Kingdon's MSA framework has provided valuable elements to understand how policy entrepreneurs can use framing in each stream in an strategic manner: for

[37] Interview, developing country - Latin America 1
[38] Interview, Executive Secretary UNFCCC (2010-2016)
[39] Interviews, developed country-Oceania; NGO 4; and Regional Bank-Africa
[40] Interview, developed country-North America
[41] Interview, NGO4
[42] Interview, developing country- Asia
[43] Interview, developing country Latin America 4
[44] Interview, Executive Director, CfRN
[45] Interview, developing country - Latin America 1
[46] Brazil, through its Amazon Fund captures most of REDD+ funding (See https://www.odi.org/sites/odi.org.uk/files/resource-documents/11030.pdf)

instance, to highlight certain aspects of a problem and ignore others, making the problem more visible and urgent; to include or reframe certain elements in a proposed solution to prevent future opposition and gain political support; and finally, how policy entrepreneurs use framing to connect or link the separate streams. Framing can be decisive in placing an item high on the political agenda (Dewulf, 2013).

Besides adding a framing dimension to Kingdon's framework, our research also incorporated a second variable to the analysis: the role of champions. Further research can contribute to enriching the understanding of international agenda setting, by analysing the role of champions in supporting policy entrepreneurs, and also by understanding the role of international organizations or partnerships: in some cases they can take the role of a policy entrepreneur (for instance FAO and the World Bank in the case of agriculture), while in others they have a more facilitative role, supporting governments, like UN-REDD, the REDD + Partnership and the FCPF in the case of REDD + .

There are high expectations for REDD + to fulfil its promises. It has also provided "… a foundation of policy experience, technical guidance and capacity on which agriculture can build" (Negra and Wollenberg, 2011: 1). As the main driver of deforestation, agriculture cannot be neglected – neither in REDD + national plans and strategies, nor in its own right, as it is an important emission source and highly vulnerable to climate change. Agriculture can build and learn from REDD + experience, but it does not necessarily mean that it needs to have a similar framework, since agriculture faces multiple challenges and complexities that differ from those of the forests (Negra and Wollenberg, 2011; Soto et al., 2016; Zurek et al., 2014).

The Paris Agreement aims to have a balance in GHG emissions and removals by sinks by 2050 (UNFCCC, 1992: art. 41). This ambitious goal cannot be achieved without giving the land-use sector a key role. Changing diets, the growing global population, and unsustainable consumption patterns will increase pressure on the agricultural sector to produce more food, while trade flows and international markets will greatly influence the direction of natural resource use[47]. Seeing the forest while missing the fields does not seem to be a long-term solution for simultaneously and effectively addressing climate change, forest conservation, and food security issues.

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